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STRAUZIA LONGIPENNIS (DIPTERA, TEPHRITIDAE), AN IMPORTANT PEST OF SUNFLOWERS RECORDED FOR THE FIRST TIME IN THE PALAEARCTIC REGION

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Брюкнер К. і Корнеев С. В. *Strauzia longipennis* (Diptera: Tephritidae) — важливий шкідник соняшника, вперше зареєстрований в Палеарктиці. Резюме. — Стебловий мінер *Strauzia longipennis* (Wiedemann, 1830), відомий як шкідник соняшника в США та Канаді, вперше знайдений у Палеарктиці (Німеччина, Берлін).

Ключові слова: Diptera, Tephritidae, *Strauzia longipennis*, Палеарктика, Європа, Німеччина, шкідник, соняшник.

Брюкнер К. и Корнеев С. В. *Strauzia longipennis* (Diptera: Tephritidae) — важный вредитель подсолнечника, впервые отмеченный в Палеарктике. Резюме. — Стеблевой минер *Strauzia longipennis* (Wiedemann, 1830), известный как вредитель подсолнечника в США и Канаде, впервые обнаружен в Палеарктике (Германия, Берлин).

Ключевые слова: Diptera, Tephritidae, *Strauzia longipennis*, Палеарктика, Европа, Германия, вредитель, подсолнечник.

Brückner C. & Korneyev S. V. *Strauzia longipennis* (Diptera: Tephritidae), an important pest of sunflowers recorded for the first time in the Palaearctic Region. Summary. — The stem-boring maggot fly *Strauzia longipennis* (Wiedemann, 1830) known as a sunflower pest in the U.S.A. and Canada, is recorded for the first time from the Palaearctic Region (Germany, Berlin).

Key words: Diptera, Tephritidae, *Strauzia longipennis*, Palaearctic Region, Europe, Germany, pest, sunflower.

Two females of an unusual tephritid fly were photographed in Berlin (borough Treptow-Köpenick, urban district Johannisthal, Springbornstr.) on June 07, 2010 by the first author (CB) on a young sunflower plant (*Helianthus annuus*, Asteraceae) in a flower bed (Fig. 1). The flies walked on the leaves, especially on the lower surface, and oviposited into the stem. Photographs were taken and posted on the diptera.info website (Beuk, 2010). The second author (SVK) identified this species as *Strauzia longipennis* (Wiedemann, 1830) through the pictures on the website and additional photos sent by e-mail (Figs. 2–7).

The species of the genus *Strauzia* Robineau-Desvoidy 1830 were known to occur mainly in the eastern parts of the United States and Canada (Foote, Blanc & Norrbom, 1993).

Loew (1873), who was first to revise the North American tephritids, considered *Strauzia longipennis* as a single species with seven varieties, but later Steyskal (1986) has shown some of them to be species restricted to certain host plants and differing by morphological characters. Stoltfus (1988) restricted *S. longipennis* as comprising individuals reared only from *Helianthus annuus*; he also raised more of Loew's varieties to full species status and described three additional host-specific species. According to Stoltfus (1988), the genus includes 12 species. Of them, only 7 were keyed and 10 listed by Foote, Blanc & Norrbom (1993), because they could not distinguish all the species by morphological characters alone and suggested that more studies "involving biochemistry, genetics, serology" are needed to confirm "the true status of the taxa considered to be valid by Stolzfus". In any concept, *S. longipennis* is restricted to morphologically distinct groups of populations associated with *H. annuus*, and is therefore an important pest of commercially grown sunflowers.

According to Smith & Wukasch (2004), the sunflower maggot overwinters in the soil as a pupa, and the adult flies emerge in early to mid June. The female lays the eggs in the shaded portions of the plant. The eggs are smooth, white, and elongate. They hatch within a week. Usually, there are several maggots within the stem, which tunnel up or down. When there

Fig. 1. The locality where *Strauzia longipennis* was found on *Helianthus annuus*, Germany, Berlin.
Photo by Claudia Brückner

Figs. 2–3. *Strauzia longipennis* on leaves and stem of *Helianthus annuus*, Germany, Berlin.
Photo by Claudia Brückner

are several maggots in one plant, the pith may be completely consumed. When fully developed, the larvae emerge from the stalk and leave a characteristic exit hole. Ten to twenty exit holes, uniformly distributed along the stalk, are common. The maggots leave the sunflower plant about mid-August and enter the soil to pupate. Tunneling in the stems by the larvae weakens the plants and makes them susceptible to wind and disease damage. Sunflowers, *H. annuus*, are the only economic crop attacked by this insect, although other native *Helianthus* sp., such as Jerusalem artichoke *H. tuberosus*, are suitable hosts.

Concerning the great importance of the sunflower as an oil culture in Eastern Europe, monitoring of *S. longipennis* is urgently needed to estimate the state of infestation and the possible need of an eradication in certain areas.

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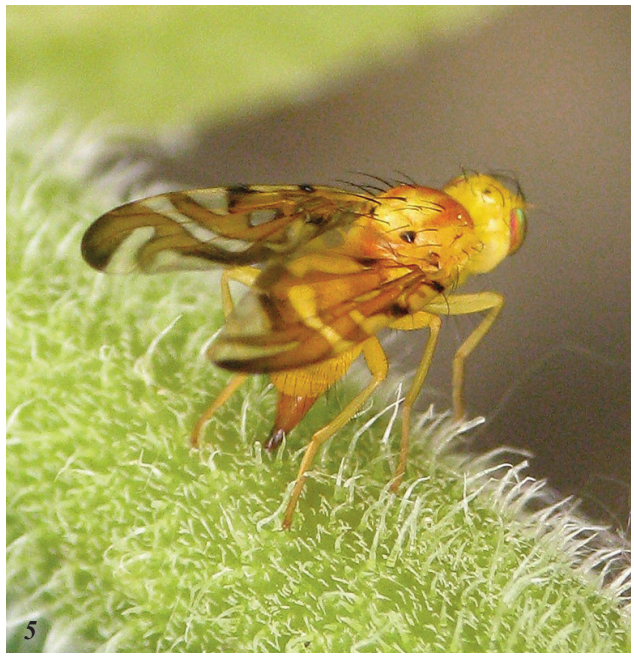

Figs. 4–7. *Strauzia longipennis* on leaves and stem of *Helianthus annuus*. Germany, Berlin.
Photo by Claudia Brückner

lands), who managed to organize an online Diptera macrophoto service, which gave us a chance for a fruitful collaboration.

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